

## **KUBOTA Corporation**

EXECUTIVE ORDER U-R-025-0831

New Off-Road

Compression-Ignition Engines

Pursuant to the authority vested in California Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2019	KKBXL02.4GND	1.826, 2.435	Diesel	5000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Electronic	Direct Injection, Exhaust Control Module, Diesel Periodic Trap Oxid	Oxidation Catalyst,	Loader, Tractor, Pump, Compressor and Other Industrial Equipment			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
POWER			NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
19 ≤ kW < 37	Tier 4 Final	STD	N/A	N/A	4.7	5.5	0.03	N/A	N/A	N/A
		CERT			3.1	0.04	0.001		_	-

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this day of November 2018.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

## **Engine Model Summary Form**

E0#U-R-075-0831 Date: 10/16/2018

Manufacturer:

**KUBOTA Corporation** 

Engine category:

**Nonroad CI** 

EPA Engine Family:

KKBXL02.4GND

Mfr Family Name:

N/A

Process Code:

**New Submission** 

Attachment page 1 of 1

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930  EM, DFI, EGR, ECM, PTOX, DOC		
C2.4-CR-EF04	C2.4-CR-EF	45.1@2400	32.5	17.4	116.1@1500	. 38.5	12.9			
C2.4-CR-EF05	C2.4-CR-EF	41.2@2200	32.2	15.8	.8 116.1@1500 38.5		12.9	EM, DFI, EGR, ECM, PTOX, DOC		
D1803-CR-EF01	D1803-CR-EF	37.0@2700	33.0	14.9	84.2@1600	34.2@1600 36.7 9.8		EM, DFI, EGR, ECM, PTOX, DOC		
D1803-CR-EF02	D1803-CR-EF	35.7@2600	33.7	14.7	84.2@1600	36.7 9.8		EM, DFI, EGR, ECM, PTOX, DOC		
D1803-CR-EF03	D1803-CR-EF	33.0@2400	32.7	13.2	84.2@1500	36.7 9.2		EM, DFI, EGR, ECM, PTOX, DOC		
D1803-CR-EF04	D1803-CR-EF	30.4@2200	32.6	12.0	84.2@1500	36.7 9.2		EM, DFI, EGR, ECM, PTOX, DOC		
D1803-CR-EF05	D1803-CR-EF	35.8@2700	32.0	14.5	84.2@1600	36.7	9.8	EM, DFI, EGR, ECM, PTOX, DOC		
D1803-CR-EF06	D1803-CR-EF	32.5@2700	29.5	13.4	73.9@1600	31.7	8.5	EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF01	V2403-CR-EF	48.3@2700	31.8	19.2	126.1@1600	40.5	14.5	EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF02	V2403-CR-EF	48.3@2600	32.0	18.6	116.1@1600	38.1 13.6		EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF03	V2403-CR-EF	40.9@2600	27.7	16.1	98.5@1600	31.8 11.4		EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF04	V2403-CR-EF	45.1@2400	32.5	17.4	116.1@1500	38.5	12.9	EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF05	V2403-CR-EF	41.2@2200	32.2	15.8	116.1@1500	38.5	12.9	EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF06	V2403-CR-EF	41.2@2700	28.2	17.0	98.5@1600	98.5@1600 31.8 11.4		EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF07	V2403-CR-EF	44.9@2600	31.0	18.0	106.2@1600	106.2@1600 34.4 12.3		EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF08	V2403-CR-EF	48.3@2600	31.9	18.5	116.1@1600	16.1@1600 38.1 13.6		EM, DFI, EGR, ECM, PTOX, DOC		
V2403-CR-EF09	V2403-CR-EF	46.4@2700	31.4	19.0	110.0@1600	35.7	12.8	EM, DFI, EGR, ECM, PTOX, DOC		